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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,973	06/16/2005	Guido Gentner	2002P06169WOUS	6167
87133	7590	09/25/2009		
Dickinson Wright, PLLC 1875 Eye Street, NW Suite 1200 Washington, DC 20006			EXAMINER WANG, QUAN ZHEN	
			ART UNIT 2613	PAPER NUMBER
			NOTIFICATION DATE 09/25/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

kspivak@dickinsonwright.com
awilson@dickinsonwright.com
cvphillips@dickinsonwright.com

Office Action Summary	Application No. 10/510,973	Applicant(s) GENTNER ET AL.	
	Examiner QUAN-ZHEN WANG	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-40 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-24, 26-28 and 30-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/8/24</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species I, fig. 1 and corresponding claims 18-24, 26-28, and 30-40 in the reply filed on 7/2/2009 is acknowledged. Claims 25 and 29 are directed to the unelected Species II and therefore are not considered.

The traversal is on the ground(s) that Species I and Species II directed to the same invention and claim 18 is generic.

2. However, the species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: Species I has a special feature of a pump source arranged in the section of the transmission system to make the necessary amplification of the optical signals is switched off when the system is in operation or when the system is not in operation it remains switched off and wherein if no line discontinuity is determined, the pump source is switched on; And Species II has a special feature of determining the output level of the isolated narrow-band spectral range of the check-back signal; determining a value of an amplification following the opto-electric modulation, wherein by delivering the output level and the determined value of the amplification, the transmission attenuation is measured at an evaluation unit. Special feature of generic claim 18 is taught by Thanhaeuser (DE 10046104A1) to lack novelty or inventive step and does not to make a contribution over the prior art.

3. The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

4. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 18-24, 26-28, and 30-40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 18 recites the limitation of “concentrating a constant proportion of an output in a defined frequency range of the check-back signal in as narrow-band spectral range as possible”. However, the specification does not teach how to concentrate the

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signal “as narrow-band spectral range as possible”; the specification does not teach or suggest how narrow the spectral range is the possible narrow-band. Therefore, the specification does not enable one skilled in the art to make and/or use the invention.

Claim 18 recites the limitation of “modulating, amplifying and filtering the decoupled check-back signal to isolate the most narrow-band spectral range possible of the check-back signal”. However, the specification does not teach how to modulate, amplify and filter the decoupled signal to isolate the most narrow-band spectral range possible; the specification does not teach or suggest what is “the most narrow-band spectral range possible”. Therefore, the specification does not enable one skilled in the art to make and/or use the invention.

Claim 18 recites the limitation of “amplification of the check-back signal decoupled from the transmission system is linear and as far as possible unlimited in amplitude”. However, the specification does not teach how to linearly amplify the decoupled signal for as far as possible unlimited in amplitude; the specification does not teach or suggest what is “as far as possible unlimited in amplitude”. Therefore, the specification does not enable one skilled in the art to make and/or use the invention.

Claims 23, 26, 27, and 40 recite the similar limitation(s).

Claim 19 recites the limitation of “followed by appropriate encoding”. However, the specification does not enable all of the “appropriate encoding”.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 18-24, 26-28, and 30-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites the limitation of “concentrating a constant proportion of an output in a defined frequency range of the check-back signal in as narrow-band spectral range as possible”. However, it is not clear what is technically considered “as narrow-band spectral range as possible”.

Claim 18 recites the limitation of “modulating, amplifying and filtering the decoupled check-back signal to isolate the most narrow-band spectral range possible of the check-back signal”. However, it is not clear what is technically considered “the most narrow-band spectral range possible of the check-back signal”.

Claim 18 recites the limitation of “amplification of the check-back signal decoupled from the transmission system is linear and as far as possible unlimited in amplitude”. However, it is not clear what is technically considered “far as possible unlimited in amplitude”.

Claims 23, 26, 27, and 40 recite the similar limitation(s).

Claim 19 recites the limitation of “followed by appropriate encoding”. However, it is unclear what is considered “appropriate encoding”.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 18-21, 26, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thanhhaeuser (DE 10046104A1, provided in IDS).

Regarding claims 18, 26, and 40, as the yare understood in view of the above 112 problems, Thanhhaeuser discloses a method and apparatus for detecting a check-back signal in an optical transmission system for optical signals (fig. 1), comprising:

- concentrating a constant proportion of an output in a defined frequency range;
- feeding the check-back signal into the transmission system at the sending end;
- decoupling the check-back signal after a section of the transmission system;
- modulating, amplifying and filtering the decoupled check-back signal to isolate the check-back signal; and
- determining the output of the isolated narrow-band spectral range for the detection of the check-back signal.

Thanhhaeuser differs from the claimed invention in that Thanhhaeuser does not specifically discloses that the frequency range of the check-back signal is as narrow-band spectral range as possible; isolating the most narrow-band spectral range possible of the check-back signal; and the amplification of the check-back signal decoupled from the transmission system is linear and as far as possible unlimited in amplitude.

However, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to improve the method and apparatus of Thanhhaeuser by employing narrowing the spectral and limiting the amplification in linear range. The

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motivation would have been to improve the performance of the method and system of Thanhhaeuser.

Regarding claim 19, as it is understood in view of the above 112 problem, the check-back signal of Thanhhaeuser is encoded signal.

Regarding claim 20, Thanhhaeuser differs from the claimed invention in that Thanhhaeuser does not specifically disclose that the signal is CMI or RZ encoded. However, Examiner takes Official Notice that CMI or RZ are well known modulation format in the art. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate these modulations in order to encode signals in an optical carrier.

Regarding claim 21, Thanhhaeuser further discloses an opto-electric modulation and the amplification of the decoupled signal is provided at least for the data bandwidth of the check-back signal (fig. 1).

11. Claims 22-24, 27-28, and 30-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thanhhaeuser (DE 10046104A1, provided in IDS) in view of Ohta (United States Patent Application Publication US 2003/0072064 A1).

Regarding claims 22, 30-33, Thanhhaeuser has been discussed above in regard with claims 18 and 40. Thanhhaeuser differs from the claimed invention in that Thanhhaeuser does not specifically disclose an additional regeneration of the check-back signal is provided. However, it is well known in the art to provide an additional check-back signal. For example, Ohta discloses to provide an additional check-back signal

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(FIG. 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate addition of regenerated check-back signal, as disclosed by Ohta, in the system of Thanhhaeuser. The motivation would have been to provide further control of the transmission system (Ohta: paragraphs 0038-0039).

Regarding claims 23-24 and 27-28, as they are understood in view of the above 112 problems, Thanhhaeuser has been discussed above in regard with claims 18 and 40. Thanhhaeuser differs from the claimed invention in that Thanhhaeuser does not specifically disclose a pump source arranged in the section of the transmission system. However, it is well known in the art to arrange a pump source in the section of the transmission system. For example, Ohta discloses to arrange a pump source in the section of the transmission system (fig. 1). Ohta further discloses that the pump source is controlled by a check back signal (fig. 1, SV). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the pump source of Ohta in the system of Thanhhaeuser and configure the pumps to make the necessary amplification of the optical signals is switched off when the system is in operation or when the system is not in operation it remains switched off and wherein if no line discontinuity is determined, the pump source is switched on. The motivation would have been to control the signal intensity in the transmission line.

Regarding claims 34-35, Thanhhaeuser further discloses that the components can be integrated in one decoupling line of a monitoring channel with check-back signal

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used for network management. Ohta further discloses that the regenerator is connected in series to the decoding module (Ohta: fig.1).

Regarding claims 36 and 37, Thanhaeuser and Ohta differ from the claimed invention in that Thanhaeuser and Ohta do not specifically disclose that the narrow-band spectral range has 50% of the total output of the check-back signal issuing from the encoding module. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to set the narrow-band spectral range to be 50% of the total output of the check-back signal issuing from the encoding module, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re A11er*, 105 USPQ 233.

Regarding claims 38 and 29, the output level of the modified system of Thanhaeuser and Ohta can be detected or determined when the pump source arranged in the optical waveguide whether said pump source is switched on or off.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUAN-ZHEN WANG whose telephone number is (571)272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9/16/2009

/Quan-Zhen Wang/

Primary Examiner, Art Unit 2613